BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554-0001



In the Matter of

| | | |
|---|---|---|
| Amendment of Parts 2, 21 and 94 of the Commission's Rules to Accommodate Private Microwave Systems in the 1.71-1.85 GHz Band and in Bands Above 3 GHz | ) ) ) ) ) | RM 7981 |

# COMMENTS OF
# NATIONAL SPECTRUM MANAGERS ASSOCIATION
# ON PETITION FOR RULEMAKING

NATIONAL SPECTRUM MANAGERS ASSOCIATION, INC.
Sambran Sandoval
President

P.O. BOX 8378
Denver, CO 80201
303-896-9576

BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, DC 20554-0001



In the Matter of

| | | |
|---|---|---|
| Amendment of Parts 2, 21 and 94 of the Commission's Rules to Accommodate Private Microwave Systems in the 1.71-1.85 GHz Band and in Bands Above 3 GHz | ) ) ) ) ) | RM 7981 |

COMMENTS OF
NATIONAL SPECTRUM MANAGERS ASSOCIATION
ON PETITION FOR RULEMAKING

On March 31, 1992, the Utilities Telecommunications Council (UTC) filed a Petition for Rulemaking (Petition) with the Commission to amend Parts 2, 21 and 94 of the Commission's Rules and Regulations to accommodate private microwave systems in the 1.71-1.85 GHz band and in the bands above 3 GHz. The National Spectrum Managers Association (NSMA), hereby submits its Comments in response to the above-captioned Petition.

The NSMA, established in 1984, is a voluntary association of individuals involved in the frequency coordination of terrestrial microwave and satellite earth stations. The role of the Association is to supplement the Commission's coordination rules with procedural and technical recommendations developed in an open industry forum which consists of coordinators, licensees, and manufacturers. The NSMA's objective is to make the frequency coordination process more effective and/or more efficient.

**A. Microwave/Satellite Frequency Coordination**

The FCC, in July 1971,(1) established the requirement for common

---

(1) FCC Docket 18920

carrier microwave operators to coordinate frequencies in advance of filing related FCC applications. This requirement was extended to satellite earth station operators in 1973. The FCC coordination requirements are included in Part 21 (for microwave) and Part 25 (for satellite earth stations) of the FCC rules. This "prior frequency coordination" among operators has proven very effective in permitting the evaluation and the resolution of potential interference problems before applications have been filed or construction has begun.

The frequency coordination process followed by system operators involves the exchange of technical data, studies of potential interference effects, correspondence between users regarding new proposals and, as necessary, re-design of proposed systems to avoid potential interference problems brought to light during the coordination notification and response process. The same basic procedures are followed by operators in other radio services (e.g., Private Microwave) which share the "common carrier" frequencies.

Newcomers easily enter the process; their integration is facilitated by the availability of commercial coordination houses which offer both prior coordination service, necessary for the approval of new designs, and "watchdog" services for frequency protection of existing installations from interference from the new designs of others.

It is important to note that the use of these commercial coordination agencies is optional. It is also appropriate for

carriers to do their own coordination, and many take this route. The only requirement is that they comply with the FCC rules, including prior coordination requirements that are designed to prevent radio frequency interference.

An FCC public notice period following the applicant's submission of an application to the Commission allows existing users time in which to verify that the new applicant has complied with the rules -- including those for prior frequency coordination -- before a license is granted. The entire process -- from coordination through application demands a high level of cooperation among competitive entities (competitive both for business and for access to the spectrum), and it has proven to be exceptionally effective in maximizing spectrum use while minimizing interference, all with virtually no involvement or effort by the Commission.

**B. Nature of the Interference Analysis**

The most obvious difference between the private and common carrier procedures is that, prior to the FCC application stage, common carrier coordination is bilateral while the private process is unilateral. On the surface, the private procedure appears simpler and less expensive. However, as will be discussed below, the additional efforts involved with the bilateral common carrier procedure provide certain key benefits.

The basic risk associated with unilateral analyses of potential interference is that other parties may not agree with one's conclusions. While interference calculations are fairly

sophisticated and comprehensive, they are not always "black and white". For example, estimates often differ regarding the attenuating effects of intervening terrain on an interfering signal. Moreover, if other parties wish to object to the unilateral interference analysis, those objections cannot be registered until the Public Notice period, since without prior notification, these other parties are unaware of the proposal until it is placed on Public Notice. This review unfortunately takes place only after significant expenses have been incurred in planning and designing the system and preparing the related applications. Resolving interference problems after an application has been filed also may be a drawn-out process and can involve additional legal expense.

With the bilateral common carrier procedure, which is conducted prior to filing an application, potential interference problems are brought to light and in nearly all cases are resolved early in the planning-implementation process.

A more important benefit of the bilateral common carrier process involves the exchange of information on other operators' systems which is used to conduct interference analyses. Common carrier coordination data bases include licensed stations, stations for which applications have been filed, and stations for which coordination has been conducted (but for which applications have yet to be filed). The latter category is clearly not a part of private microwave interference analysis, since their is no mechanism for collecting data on other parties' systems other than

Public Notices and applications. Therefore, there is a distinct possibility that two different private parties may simultaneously plan and spend money on systems which would be mutually exclusive. Eventually, one party will have to capitulate and spend additional time and money modifying its plan.

**C. The Role of the NSMA**

The Commission's Rules are clearly written regarding coordination requirements, specific direction as to the required procedures, and responsibilities of each party in the prior coordination process. The industry, supported by the NSMA, establishes the system parameters and criteria necessary to ensure non-interference.

The NSMA provides a forum for coordinators and system operators to study and advance the science of interference prediction, agree on interpretation of the Commission's rules, establish specific guidelines for their implementation and, of considerable importance, work with each other face-to-face to resolve problems of common industry interest.

The NSMA develops and publishes Recommendations and Reports on industry practice which coordinators may use to supplement the Commission's Rules to make the coordination process more efficient and more effective. The Recommendations and Reports are developed by Working Groups and are approved by a 15-member Board of Directors elected by the general membership. These Recommendations and Reports are available to any interested

party involved in frequency coordination.

**D. FCC Experience**

Just prior to the implementation of the requirement of prior frequency coordination, the FCC had approximately 1,700 microwave applications on file which were the subject of interference-related objections by other operators. Since that time, however, the FCC has seldom had to resolve an interference dispute between parties. The prior frequency coordination requirement (and associated industry practice) causes interference-related problems to be identified and resolved before applications are filed. The process not only is workable, it works well.

In an FCC report on the common carrier frequency coordination process,(2) the Commission confirmed the fundamental viability and success of the user-driven frequency coordination process. The report noted that not only is this methodology effective in the control of interference between licensees, but it appears to create incentives which encourage licensees to use the spectrum in an economically efficient manner. Results of the study suggest that licensees employing technical flexibility and prior coordination will voluntarily implement spectrum-efficient technology in congested areas where spectrum value is greater.

---

(2) See OPP Working Paper Series No. 21 "Private Frequency Coordination in the Common Carrier Point-to-Point Microwave Service," September 1986.

Government oversight of this coordination process does not exist in terms of "technical confirmation" or "approvals." Instead, the parties manage this by monitoring each other's applications to protect their own interests, and by working in the NSMA to refine and improve the process where possible and practical.

**E. Industry Advisory Committee**

UTC in its Petition proposes that the FCC convene an industry advisory committee to develop new technical requirements and interference criteria for the 4, 6 and 11 GHz common carrier bands. The NSMA already has a platform for developing interference criteria for existing operating parameters, and continues to update the criteria when needed. As the recognized industry organization in this arena, the NSMA has worked smoothly in assuring that frequency coordination may be done with both maximum protection to existing and proposed paths as well as allowing for maximum spectrum utilization. The NSMA encourages the Commission to allow the industry, rather than the FCC Rules, to guide frequency coordination requirements and practices.

**F. Conclusion**

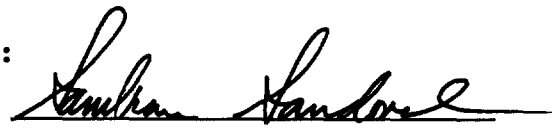
In summary, experience over the past 20 years in the frequency coordination community illustrates that private groups and individual users can effectively coordinate their frequency use with minimal regulatory oversight.

The combination of regulatory guidelines and user cooperation is

effective in helping the FCC manage the spectrum. The NSMA and its members are in a position to continue this vital effort.

Respectfully Submitted,

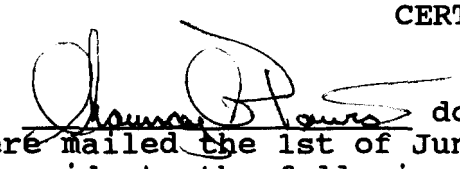
NATIONAL SPECTRUM MANAGERS ASSOCIATION, INC.

By: 

Sambran Sandoval
President

P.O. BOX 8378
Denver, CO 80201
303-896-9576

CERTIFICATE OF SERVICE

I,  do hereby certify that the attached Comments were mailed the 1st of June, 1992, via U.S. Mail, first class postage prepaid, to the following:

Jeffery L. Sheldon, General Council
Utilities Telecommunications Council
1140 Connecticut Avenue, N.W.
Suite 1140
Washington, D.C. 20036

Sean A. Stokes, Staff Attorney
Utilities Telecommunications Council
2240 Connecticut Avenue, N.W.
Suite 1140
Washington, D.C. 20036

Dr. Thomas P. Stanley
Chief Engineer
Office of Engineering and Technology
Federal Communications Commission
2025 M Street, Room 7002
Washington, D.C. 20036